

```
Hydrophobic
                                                        Hydrophilic
               -2
                                                              2
     0.00
 1
                                       М
 2
     0.00
                                       Н
 3
    -0.15
                                     = R
 4
    -0.29
                                   === L
 5
    -0.71
 6
    -1.38
 7
    -1.49
 8
    -1.61
 9
    -1.47
                      ==========
10
    -1.30
                        ======= L
    -0.88
11
12
    -1.23
13
    -1.10
14
    -0.75
                             ====== N
    -0.75
15
                             ====== F
16
    -0.17
                                    == C
     0.30
17
                                       S ===
18
     0.65
                                       C =====
19
     0.87
                                       R =======
20
     0.73
                                       D
21
     0.83
                                       \mathbf{T}
22
     0.33
                                       S
    -0.13
23
                                     = A
   -0.02
                                       \mathbf{T}
24
25
    -0.15
                                     = P
                                   Q
=== S
    -0.02
26
27
    -0.25
28
     0.25
                                       A ===
29
     0.13
                                       S
30
    -0.22
                                    == I
31
     0.37
                                       K ====
     0.35
32
                                       A ====
     0.57
33
                                       L =====
     0.10
34
                                       R =
35
    -0.12
                                     = N
36
     0.68
                                       A ======
     0.68
37
                                       N ======
38
     1.15
                                         =========
39
     1.73
                                       R ===========
40
     1.75
                                       R ==========
41
     2.08
                                       D =============
42
     1.50
                                       E =========
     0.70
43
                                       S ======
     0.13
44
                                       N =
45
     0.13
                                       H =
46
    -0.22
                                    == L
47
    -0.63
                               ===== T
48
                                       D
    -0.05
```

Fig. 1A

```
49
     0.75
                                      L ======
50
     1.32
                                      Y =========
     1.32
51
52
     1.55
                                      R ==========
53
     1.63
                                      D ==========
54
     1.17
                                      E ========
55
    0.42
                                      T ====
     0.42
56
                                      I
                                        ====
57
    -0.08
                                    = Q
58
    0.02
                                      V
59
    0.32
                                      K ===
60
    -0.10
                                    = G
    -0.10
61
                                    = N
62
    -0.57
                               ===== G
63
    -0.52
                                ==== Y
64
    -0.55
                               ===== V
65
    -0.05
                                      Q
66
    -0.08
                                      S
                                    =
67
     0.17
                                      P ==
68
    0.17
                                      R ==
69
    0.17
                                      F
                                        ==
70
    0.18
                                      P ==
71
    -0.32
                                  === N
72
    0.60
                                      S =====
73
    0.63
                                      y =====
74
    0.30
                                      Ρ
                                        ===
75
    -0.05
                                      R
76
    -0.37
                                 ==== N
77
    -0.43
                                 ==== L
78
    -1.50
                     ======= L
79
    -1.03
                          ======= L
80
    -1.03
                          ======= T
81
    -0.82
                             ====== W
82
    -0.47
                                ======R
83
    -0.37
                                 ==== L
84
    0.70
                                      H ======
85
    0.23
                                      S ==
86
     0.47
                                      Q
                                        =====
87
     1.05
                                      E
                                        =========
88
    0.70
                                        ======
                                      Ν
     0.70
89
                                      \mathbf{T}
                                        ======
90
    -0.10
                                    = R
91
    -0.38
                                 ==== I
92
    -0.73
                              ===== Q
93
    -0.73
                              ===== L
94
    -0.40
                                 ==== V
95
    -0.40
                                 ==== F
96
    -0.52
                                ==== D
97
    -0.27
                                  ===N
98
    -0.15
                                    = Q
```

Fig. 1B

· · · · · .

```
99
     -0.15
                                    = F
     0.32
100
                                     G ===
101
      0.20
                                     L ==
102
                                      E =======
      1.12
      1.15
103
                                      E ========
104
      1.95
                                      A ==============
     1.15
105
                                     E ========
106
     0.48
                                     N =====
     1.07
107
                                     D =======
108
     0.18
                                      I ==
109
     0.65
                                      C =====
110
     -0.27
                                  ===R
111
    -0.22
                                  == Y
112
     0.45
                                     D =====
113
    -0.30
                                  === F
114
     0.58
                                     V =====
115
     0.58
                                      E =====
116
     0.70
                                      V ======
117
     1.00
                                      E =======
118
      1.00
                                      D
      1.18
119
                                      I ========
     0.73
120
                                      S =====
     0.17
121
                                      E ==
     0.17
122
                                      T ==
123
     -0.18
                                   == S
124
     -0.18
                                  == T
125
     -0.12
                                    = I
126
     0.33
                                      I ===
127
    -0.17
                                   == R
128
    -0.03
                                      G
129
     0.27
                                      R ===
130
     -0.32
                                  === W
131
     0.18
                                      C :==
132
     0.18
                                      G ==
133
      0.50
                                     H =====
134
     0.67
                                     K ======
135
     0.67
                                     E =====
     1.25
136
                                      V ========
137
     0.45
                                      P =====
138
      0.45
                                      P =====
139
      0.75
                                      R ======
      1.25
140
                                      Ι
                                        =========
141
      1.18
                                      K ========
142
     0.72
                                      S ======
143
     1.05
                                      R ========
144
     0.25
                                      T ===
145
     0.70
                                     N ======
146
     -0.10
                                    = Q
147
     -0.10
                                    = I
148
     -0.55
                               ===== K
149
     -0.08
                                    = I
```

Fig. 1C

```
150
      0.27
                                          ===
151
      0.27
                                         F
                                           ===
152
      1.07
                                         K
                                           ========
153
      0.75
                                         S
                                           =======
154
      0.75
                                         D
                                           =======
155
      0.00
                                         D
156
     -0.13
                                      = Y
157
     -0.13
                                      = F
158
     -0.63
                                 ===== V
159
     -0.25
                                    ===A
160
     -0.25
                                    === K
161
      0.50
                                         P =====
162
      0.28
                                         G
163
     -0.60
                                 ===== F
164
     -0.98
                             ======= K
165
     -0.93
                              ======= I
     -0.82
166
                                        Y
167
     -1.62
                      ========= Y
168
     -0.82
                               ====== S
169
      0.07
                                         L
      0.03
170
                                         L
171
      0.02
                                         E
172
      0.32
                                         D
                                          ===
173
      0.53
                                         F
174
     -0.05
                                      = Q
175
     -0.63
                                        Ρ
                                 =====
176
     -0.17
                                     == A
177
      0.30
                                         A ===
178
      0.23
                                         A ==
179
      0.35
                                         S
      0.27
180
                                         Ε
181
      0.85
                                         Т
                                           =======
182
      0.85
                                        Ν
                                           ========
      0.10
183
                                         W
184
      0.10
                                         Ε
185
      0.12
                                         S
                                          =
186
      0.33
                                         V
                                          ===
187
     -0.47
                                  ==== T
     -1.08
188
                                        S
189
     -0.83
                                        S
                               =======
190
     -1.02
                             ======= I
191
     -1.02
192
     -1.45
193
     -1.12
                           ======= V
194
     -0.50
                                  ==== S
195
     -0.50
                                  ==== Y
196
     -0.20
                                     == N
197
     -0.50
                                  ==== S
198
     -0.18
                                     == P
199
      0.28
                                         S
                                          ===
200
      0.23
                                         V ==
```

Fig. 1D

· · · · .

```
0.17
201
                                    T ==
202
    -0.18
                                 == D
     -0.23
203
                                 == P
     -0.25
204
                                 === T
     -0.25
205
                                 === L
206
     -0.33
                                 === I
     -0.57
207
                              ===== A
208
     0.23
                                    D ==
209
     1.03
                                    A =======
210
     1.62
                                    L ===========
211
     0.82
                                    D ======
212
     0.82
                                    K ======
213
     1.62
                                    K =========
214
     0.70
                                     I ======
215
     0.70
                                    A ======
216
     0.13
                                    E =
217
     0.18
                                    F ==
218
     0.77
                                    D
                                      =======
219
     0.77
                                    T ======
220
     0.88
                                    V ======
221
     0.08
                                    E =
222
     0.65
                                    D ======
223
     0.52
                                    L =====
224
     -0.40
                                ==== L
225
     -0.87
                           ======= K
226
    -0.57
                              ===== Y
227
     0.23
                                    F ==
228
    -0.22
                                  == N
229
     0.00
                                    Ρ
230
     0.45
                                    E ====
231
     0.92
                                     S =======
232
     1.42
                                      _____
233
     0.62
                                     Q
                                      =====
234
     1.07
                                     E =======
235
     1.27
                                    D ========
     1.02
236
237
     0.13
                                    E =
                             ===== N
238
    -0.67
239
     0.13
                                    M
240
     -0.43
                               ==== Y
241
    -0.47
                               ===== L
242
     0.25
                                    D ===
243
     0.65
                                     T ======
244
     1.45
                                     P =========
245
     0.95
                                     R =======
246
      1.52
                                      ===========
247
      1.57
                                    R =========
     1.08
248
                                    G ========
249
     0.98
                                     R ========
250
      0.98
251
      1.48
                                     y ==========
```

Fig. 1E

· · · · · .

```
252
     1.48
                                   H =========
253
     1.48
                                   D =========
254
     1.97
                                   R ===========
255
     1.80
                                   K ==========
256
     1.80
                                   S ===========
257
     1.00
                                   K =======
258
     1.00
                                   V =======
259
     1.45
                                   D =========
260
     0.65
                                   L ======
261
     0.93
                                   D =======
262
     0.93
                                   R =======
263
     1.73
                                   L =========
     1.15
264
                                   N ========
     1.15
265
                                   D ========
266
     1.95
                                   D =============
267
     1.93
                                   A ============
268
     1.48
                                   K =========
269
     0.82
                                   R ======
270
     0.83
                                   y ======
271
     0.33
                                   S ===
272
     0.33
                                   C ===
273
     0.35
                                   T ====
274
     0.32
                                   P ===
275
     0.53
                                   R =====
276
     0.35
                                   N ====
277
     0.38
                                     ====
                                   У
278
    -0.42
                               ==== S
279
     0.05
                                   V =
280
     0.53
                                   N =====
281
     0.98
                                   I ========
282
     0.93
                                   R =======
283
     1.40
                                   E =========
284
     1.40
                                   E =========
285
     0.82
                                   L ======
286
     0.35
                                   K ====
    -0.40
287
                               ==== L
288
    -0.35
289
    -1.27
                      ======== N
290
    -1.38
                     ======== V
291
    -1.30
                      ======== V
292
    -0.83
                           ====== F
293
    -0.75
                           ====== F
294
    -0.80
                           ====== P
295
    -0.68
                            ====== R
296
    -0.52
                              ==== C
297
    -0.48
                              ===== L
298
    -0.48
                              ==== L
299
    -0.48
                              ==== V
300
    -0.18
                                 == 0
301
     0.12
                                   R =
302
     0.40
                                   C ====
```

Fig. 1F

```
0.20
303
                                         G ==
304
     -0.30
                                     ===G
305
     -0.30
                                     ===N
306
     -0.87
                              ======= C
307
     -0.93
                              ====== G
     -1.22
308
                           _____
                                         C
309
     -1.02
                             ========
310
     -1.58
311
     -0.92
                              ====== V
312
     -0.30
                                     === N
313
     -0.40
                                    ==== W
314
     -0.22
                                      ==R
315
     -0.42
                                         S
316
      0.18
                                         С
                                     === T
317
     -0.27
                                     === C
318
     -0.32
319
      0.35
                                         N
320
      0.35
                                         S
      0.27
321
                                         G
322
      0.73
                                         K
323
      1.18
                                           _____
      1.20
324
                                         V
                                           =========
325
      0.62
                                         K
326
      1.18
                                         K
327
      1.18
                                           ==========
                                         У
      0.38
328
                                         Η
     -0.08
329
                                         Ε
330
     -0.52
                                  ==== V
331
      0.07
                                         L =
332
     -0.43
                                    ==== Q
333
     -0.18
                                      == F
334
      0.03
                                         Ε
335
     -0.30
                                     ===P
336
      0.62
                                         G =====
      0.62
337
                                         H =====
338
      1.12
                                         Ι
                                           =========
      1.12
339
340
      1.70
      1.92
341
      1.92
342
                                         G
343
      1.35
344
      0.63
                                           ======
                                         Α
345
      0.55
                                         K
                                           =====
                                     === T
346
     -0.25
347
     -0.42
                                    ==== M
     -0.42
348
                                    ==== A
349
     -0.65
                                ====== L
350
     -0.40
                                    ==== V
351
     -0.62
                                 ===== D
352
      0.18
                                         Ι
                                           ==
      0.35
353
                                         Q
                                           ====
      0.17
354
                                         L ==
```

355	0.97				D	=========
356	1.43				H	=======================================
357	1.57.				h	=======================================
358	1.57				E	=======================================
359	1.48				R	=======================================
360	0.87				С	========
361	0.20				$^{-}$ D	==
362	-0.14			=	С	
363	0.19				I	==
364	0.30				С	===
365	0.58				S	=====
366	0.99				S	========
367	1.77				R	=======================================
368	0.00				P	
369	0.00				Ρ	
370	0.00				R	
		-2	-1		0	1 2
	ΗΣ	/drophobic				Hydrophilic

Fig. 1H